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Table of Contents

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The Soy Milk increase Osteoblast in Alveolar Bone of Wistar Rats Induced by A. actinomycetemcomitans

SUSU KEDELAI MENINGKATKAN JUMLAH OSTEOBLAST TULANG ALVEOLAR TIKUS WISTAR YANG DIINDUKSI OLEH A. actinomycetemcomitans

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Abstract

Background: Periodontitis can be caused by Aggregatebacter actinomycetemcomitans bacteria. This bacterium induces inflammation in periodontal tissues and can lead into periodontal tissues breakdown and destruction of the alveolar bone and decrease the number of osteoblast cells. Soy milk containing the amino acid glycine and Amino Acids Arginine Insulin is able to maintain balance. In addition, the protein in soy milk is more easily accepted kidneys compared with animal protein. Soy milk stimulate the osteoblastic activity of estrogen receptors, and increases production of growth hormone – (insuline Like Growth Factor 1 (IGF-1). Purpose: The aim of this study is find out the soy milk effect on the elevation of osteoblast in alveolar bone of wistar rats induced A. actinomycetemcomitans. Methods: In this study, there are 27 male wistar rats were divided into three groups: control, AA, and AA with soymilk. In AA group, Aggregatibacter actinomycetemcomitans bacteria was given in first, third, fifth day of one month experiment. In AA and soymilk group was given both Aggregatibacter actinomycetemcomitans bactery and soymilk. At the end of one month, the rats were sacrificed, the alveolar bone tissue were dissected by microtome and it was analyzed for osteoblast level by microscope using hematoxylin eosin staining. Result: AA group resulted in significantly reductions in the alveolar bone tissue level of osteoblast than the control ($p<0.05$). Soy milk group show significant elevation of osteoblast compared to AA group ($p<0.05$). And the result of the present study indicates that soy milk show significant elevation in alveolar bone level of osteoblast in Aggregatibacter actinomycetemcomitan-induced experimental periodontitis. Conclusion: Soy milk administration for a month showed elevation of osteoblast number in alveolar bone of wistar rats induced A. actinomycetemcomitans.

Keyword : soy, milk, osteoblast, A.actinomycetemcomitans, ,

Abstrak

Daftar Pustaka :

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